

Urban Pest Ant Management Work Plan

University of California, Riverside

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Overview

Pest ants and their control present significant problems in urban environments. A survey of one large pest management company in California indicates that 36% of all customer calls concern ant control, equaling the total for the next three pests (cockroaches, spiders, and bees) combined. Another company reports that 65-80% of their service calls are for ants. Likewise, homeowners apply large quantities of commercially available insecticides to control pest ants. Because of the continuing reliance on the use of insecticidal sprays to control pest ants around structures, there is a growing perception and documentation that these kinds of treatments have resulted in potentially harmful runoff into urban watersheds. Insecticide baits and granules are broadcast over broad areas to suppress species such as *Solenopsis invicta* but are less successful in controlling sweet-feeding ants such as Argentine ants. The sweet-feeding species generally invade structures resulting in most pesticide applications in non-agricultural sites. The lack of effective commercial containerized ant baits and cost-effective IPM strategies for pest ants has prevented their wide scale adoption. We propose to develop and communicate effective comprehensive IPM programs that specifically target the most common and widespread urban pest ants in California.

Goals and Objectives

The primary goal of this PMA is the implementation and adoption of least toxic IPM strategies to control ants in urban environments, to reduce the amount of insecticide used to control ants, and to develop strategies that prevent or significantly reduce the amount of insecticide in water runoff. Specifically, reduce by 50% the amount of pyrethroid insecticide applied to control pest ants around residential structures with participating pest management companies.

Work Plan

Year 1. Develop and implement pilot project on residential accounts.

- Task 1.1 Select service routes in Orange and San Diego counties for Western Exterminator, Orkin Inc., and Lloyd Pest Control. One route consisting of customers with pest ant problems or complaints will continue with traditional service as provided by each company while another route will incorporate the PMA pest ant IPM program that will be developed, modified, and optimized. Customers on both routes will be surveyed before the ant season and afterwards. They will be provided information regarding the goals of IPM and the specific strategies for controlling ants that have been developed by the PMA. It will be explained that the primary goal of the program is to reduce the amount of pesticide applied, especially pyrethroid insecticide, while maintaining satisfactory levels of ant control. The typical route has about 120-140 customers. Deliverables: List of service routes to be surveyed.

- Task 1.2 Develop survey cards for homeowners and commercial applicators to determine if pest ant IPM strategies are perceived as providing good ant control. Use survey cards to determine the level of acceptance of the program by residents and PMPs. The homeowner survey cards will measure the perceived success of the IPM strategies. PMPs will also be surveyed as to the acceptance of the IPM strategies. Deliverables: Survey cards. Cost analyses of the amount of insecticide applied, time to service accounts, and income for the service will be compared for standard and IPM routes.
- Task 1.3 Demonstration of effective, adoptable, cost-effective control measures that can be incorporated into IPM programs to control ants. IPM strategies utilizing appropriate green chemistries, monitoring, exclusion, baiting, and other low-risk approaches shown to be effective will be incorporated into the IPM company routes. Each customer will receive a survey return card before and after each ant season. Personnel in each company will monitor the costs and time to service these accounts. In addition, the routes will be monitored throughout the first year, recording the types of insecticide used, frequency of treatment, amount of insecticide applied, customer satisfaction and acceptance, cost, income, and information concerning acceptable levels of commercialization by Team Members. The data will be gathered by cooperating PMPs and sent to U.C. Riverside where it will be tabulated for analysis. Deliverables: The information will be included in written reports. Pesticide Use Reports and work notices for the routes will be prepared. Data on the work notices will include the volume or amount and the formulation of the insecticide applied each time. Treatments for other pests such as spiders or cockroaches will be noted.
- Task 1.4 Develop a website that will contain information regarding the PMA, participating PMPs, and links to an assortment of sites regarding ants and their control in urban settings. Deliverables: Pest-Ant IPM Website.
- Task 1.5 Conduct workshops and participate in seminars to train PMPs to adopt these pest management strategies. The program will be introduced at the U.C. Riverside 2008 Annual Urban Pest Management Conference, which typically has over 200 PMPs in attendance. Deliverables: Attendance at each of the workshops and seminars will be taken. For the PMPs to receive continuing education credit from the Structural Pest Control Board, quizzes are mandated. A separate 1-page question sheet will be prepared for the ant IPM session. These will be graded and the scores recorded. This will provide training documentation.
- Task 1.6 Meetings at least quarterly; Semi-annual Report due in August 2008.

Year 2. Implement strategies to reduce the frequency of insecticide applications.

- Task 2.1 Measure success of IPM program. The overall success of the IPM program will be measured by examining the Pesticide Use Reports of the three companies for each of the routes. An indirect measure of the successful adoption of the IPM program may be the reduction of pyrethroids sampled in urban watersheds by other researchers and agencies. Deliverables: Include analysis in Semi-annual Progress report.

- Task 2.2 Refine pest ant IPM website to contain links to U.C. Pest Notes and other information regarding ant IPM strategies and methodologies for both the industry and customers (equipment, urban irrigation practices, landscapes and plantscapes, architecture, urban water-runoff issues, and others as appropriate). Deliverable: Pest Ant Website refinements such as U.C. Pest Note.
- Task 2.3 Based on information obtained in year 1, survey cards, door hangers and other IPM printed material will be prepared and distributed to residential pest control customers in San Diego and Orange counties. We will prepare a U.C. Pest Note for the website to provide information concerning the identification, biology and control of important structural pest ant species in California, with special emphasis on the IPM strategies developed and implemented by the PMA. We will also develop door hangers and other appropriate information such as bulletins that the industry has expressed a willingness to incorporate into their service, advertising and billing operations. Deliverables: Doorhangers, bulletins, and/or other information that could be delivered by PMPs to residential customers.
- Task 2.4 Recruit additional pest control companies into the program as volunteer Team Affiliates. Affiliates will be selected from influential PMP who will potentially affect additional pesticide users and the public that would otherwise be unaware of the benefits of the program. To be an Affiliate, the company must express a commitment to incorporate IPM strategies developed by the PMA. Team Members will train the Affiliates at a one-day training session and will provide an on-line or CD training module to help those companies train their in-house PMPs to incorporate our ant IPM strategies. In return, the Affiliates will document changes in their pest management practices, including reduced pesticide use. We intend to have companies throughout California involved in the PMA and will advertise and encourage companies to implement our pest ant IPM strategies. Pesticide Use Reports of affiliates that join the program in Year 2 will also indicate how well the program is being adopted and implemented. Deliverables: List of additional PMPs; analysis of Pesticide Use Reports of affiliates that join the program in Year 2.
- Task 2.5 Develop an urban pest-ant training module. This module will be used to train Affiliates and other PMPs concerning IPM techniques designed specifically to achieve good ant control while applying less pesticide. Once evaluated and perfected by the Team Members, versions of the module will be made available to the industry and public. Deliverables: Pest-ant training module.
- Task 2.6 Introduce the urban ant-IPM program to the Master Gardeners Program in Santa Barbara County as the program is developed. If well received there, it may be incorporated into Master Gardner training elsewhere. Deliverables: Number of MGs introduced to the program.
- Task 2.7 Conduct workshops and participate in seminars to train PMPs to adopt these pest management strategies. The program will be expanded to include other sites throughout California through the assistance of Target Specialty Products, Univar, and the Pest Control Operators of California. Deliverables: Documented attendance at each of the workshops and seminars. For the PMPs to receive continuing education credit from the Structural Pest Control Board, quizzes are mandated. A separate 1-page question sheet will be prepared for

the ant IPM session. These will be graded and the scores recorded. This will provide training documentation.

- Task 2.8 Meetings at least quarterly. Semi-annual reports due in January 2009 and in August 2009.

Year 3. Continue Training program.

- Task 3.1 Make web-based training module or CD available to PMPs. Deliverable: Module available on project website.
- Task 3.2 Meetings quarterly; Semi-annual report due in January 2010.
- Task 3.3 Final Report due by May 14, 2010; Final presentation of results to PMAC and DPR staff (date to be determined).